

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018714**Date Inspected:** 09-Dec-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1100**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** John Pagliero**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Section**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above.

This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and to monitor American Bridge/Fluor (ABF) welding operations.

The following observations were made:

- 1) At weld joint 6EPP46.5-E2-LS-W, inside the OBG section: ABF welding personnel Hua Qiang Hwang (#2930) was performing production welding using the Shielded Metal Arc Welding (SMAW) process. QC Inspector Fred Von Hoff was monitoring the work.
- 2) At weld joint 8E/9E LS-4, 5 and 6, inside the OBG section: ABF welding personnel Xiao Jian Wan (#9677) was in the process of setting up to start production welding using the Shielded Metal Arc Welding (SMAW) process.
- 3) At weld joint 8EPP61.5E2-TS, inside the OBG section: ABF welding personnel Wai Kitlai (#2953) was performing production welding using the SMAW process. QC Inspector John Pagliero was monitoring the work.
- 4) At weld joint 7E/8E – D-1 & 2, outside the OBG section: ABF welding personnel Rory Hogan (#3186) and Jeremy Dolman (#5042) were in the process of grinding the back gouged section of the weld.
- 5) At weld joint 8E/9E – C1 and 2, outside the OBG section: ABF personnel were in the process of setting up the

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preheating equipment.

6) At weld joint 7E/8E – E1 and 2, inside the OBG section: QC Inspector Jesus Cayabyab was observed performing Ultrasonic Testing (UT).

7) QC Inspector John Pagliero informed this QA Inspector he was in the process of gathering information regarding the verification of QC inspections at the various access hole penetrations by what has been documented on the weld maps adjacent to welds at each location.

At weld joint 6EPP46.5-E2-LS-W, inside the OBG section this QA Inspector observed ABF welding personnel Hua Qiang Hwang (#2930) request the back gouged section of the weld be checked by QC Inspector Fred Von Hoff. This QA Inspector observed as QC Inspector Fred Von Hoff performed visual and Magnetic Particle Testing (MT) inspections. This QA Inspector observed QC Inspector Fred Von Hoff had marked several areas and was present when he verbally informed ABF welding personnel Hua Qiang Hwang (#2930) there were several MT indications in the back gouged area that needed to be removed by grinding. This QA Inspector randomly observed as additional grinding was performed and the back gouged weld re-inspected. QC Inspector Fred Von Hoff informed this QA Inspector he had accepted both the visual and MT inspection of the back gouge at this time. This QA Inspector performed a visual verification and the work observed appeared to comply with the contract requirements. This QA Inspector observed QC Inspector Fred Von Hoff verify the minimum preheat of the base material was greater than 100° C using an electric temperature gauge. This QA Inspector randomly observed as QC Inspector Fred Von Hoff monitored the SMAW welding parameters being used on a scrap piece of material and was present when QC Inspector Fred von Hoff informed ABF welding personnel Hua Qiang Hwang (#2930) the welding amperage was below the minimum required and to turn up the amperage approximately 10 amperes. This QA Inspector was present when QC Inspector Fred Von Hoff check the welding amperage and verbally informed this QA Inspector the parameters were within the range of the Welding Procedure Specification (WPS). This QA Inspector observed the weld parameters appeared to be 125amperes using a 3.2 mm diameter E9018H4R electrode. This QA Inspector observed a heated electrode storage container designated solely for 9018 was adjacent to the work area. The work observed at this location appeared to comply with ABF-WPS-D15-1012-3.

At weld joint 8E/9E LS-4, 5 and 6, inside the OBG section this QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) was in the process of setting up ventilation hoses, preheating cables and pads, welding leads and scaffolding in preparation to start production welding using the SMAW process. Welding at this location was not observed by this QA Inspector this shift.

At weld joint 8EPP61.5E2-TS, inside the OBG section this QA Inspector observed ABF welding personnel Wai Kitlai (#2953) was performing production welding using the SMAW process. This QA Inspector performed a verification of the welding parameters and observed the following: 105 amperes using a 3.2 mm diameter E7018H4R electrode. This QA Inspector observed QC Inspector John Pagliero was monitoring the work. The work observed appeared to comply with ABF-WPS-D15-1010-Rev-1.

At weld joint 7E/8E – D-1 & 2, outside the OBG section this QA Inspector observed ABF welding personnel Rory Hogan (#3186) and Jeremy Dolman (#5042) were in the process of grinding the back gouged section of the weld and informed they may be ready for a MT inspection later this date. This QA Inspector did not observe welding at this location this date.

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At weld joint 8E/9E – C1 and 2, outside the OBG section this QA Inspector observed ABF personnel were in the process of setting up the weld preheating equipment.

At weld joint 7E/8E – E1 and 2, inside the OBG section this QA Inspector observed QC Inspector Jesus Cayabyab was setting up to start performing Ultrasonic Testing (UT).

QC Inspector John Pagliero informed this QA Inspector he was in the process of gathering information regarding the verification of QC inspections at the various access hole penetrations by what has been documented on the weld maps adjacent to the welds at each location.

### Summary of Conversations:

As noted above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Hager,Craig	Quality Assurance Inspector
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<b>Reviewed By:</b>	Levell,Bill	QA Reviewer
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